DOCUMENT RESUME

ED 481 291 EC 309 817

AUTHOR	Parette, Phil; Hourcade, Jack
TITLE	Cultural Dimensions of Assistive Technology: What We Know and What's Ahead.
PUB DATE	2003-04-11
NOTE	8p.; Poster presented at the Annual Meeting of the Council for Exceptional Children (Seattle, WA, April 9-12, 2003).
PUB TYPE	Reports - Descriptive (141) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Accessibility (for Disabled); *Assistive Technology; *Cultural Differences; *Cultural Influences; *Disabilities; Elementary Secondary Education; Family Environment; Family School Relationship; *Parent Education; Values

ABSTRACT

This paper examines the cultural dimensions of assistive technology (AT) for families of students with disabilities. First, goals and potential outcomes when working with families across cultures are identified, including immediate benefits of AT, change in level of functioning, acceptance in the community, immediate and ongoing access to AT, being more like other children, and ability to use other devices. Guidelines for AT professionals working with families include recognizing universal, culturally specific, and individual principles and styles of learning and modifying educational approaches from child learning to adult learning strategies. The use of information and educational technologies in the family training process is addressed, noting uses of technologies such as the interactive CD-ROM, Web sites, or e-mails about implementation progress to supplement face-to-face training. The paper also stresses the importance of maximizing access through accessible instructional design. A four-step process is recommended: (1) identification of the cultural attitudes and values embedded in the professional's interpretation of the family and/or students' AT needs and services; (2) determining how the family's perceptions differ from that of the professional; (3) respecting any cultural differences identified and explaining the professional assumptions; and (4) determining the most effective way to adapt professional recommendations to the value system of the family. (Contains 27 references.) (DB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 481 291

Cultural Dimensions of Assistive Technology: What We Know and What's Ahead

By
Phil Parette
Jack Hourcade

April 11, 2003

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
P. Parette
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
1

EC 309817

BEST COPY AVAILABLE

Cultural Dimensions of Assistive Technology: What We Know and What's Ahead

Phil Parette
Southeast Missouri State University

Jack Hourcade
Boise State University

While it is recognized as best practice in the field of special education (and mandated by law) that families of children with developmental disabilities be actively involved in making decisions about assistive technology (AT) that is being considered for their children, family decisions involved in such processes are often heavily influenced by cultural/linguistic backgrounds. For example, African American family members may prefer not to use AT devices that call attention to their children in public settings (Parette, Brotherson, Hoge et al., 1996; Smith-Lewis, 1992). The time required for training to use AT devices, attendance at workshops, or transporting devices in the community might be issues for a Native American family (Stuart, 1998). Hispanic family members may choose to use AT devices that encourage *cooperation* vs. *competition* (Huer, Parette, & Saenz, 2001). A Chinese family may be hesitant to use an AT device if the benefits are not readily apparent (Parette & Huer, 2003).

Such culturally/linguistically-based values reflected in the preceding examples wield strong influence on family perceptions of AT. If team members involved in AT decision-making fail to consider these powerful cultural influences, inappropriate decisions may sometimes be made (Parette & McMahan, 2002). In order to ensure that family voices are heard in this process, and to minimize the possibility of AT abandonment, team members should carefully consider *goals for* and *what families expect* of AT for children with disabilities. Such family goals and expectations are often quite different from those of professionals (Parette, VanBiervliet, & Hourcade, 2000).

What We Know: Family Goals for AT and Team Responses

Presented in Table 1 are goals and potential outcomes that may often be anticipated when working with families across cultures. Generally, these goals have been categorized into six different areas: (a) immediate benefits of AT, (b) change in level of functioning, (c) acceptance in community, (d) immediate and ongoing access to AT, (e) being more like other children, and (f) ability to use other devices (e.g., computers). A brief description of each of these goal areas, outcomes, and team responses are noted in the following sections.

Immediate benefits of AT. Families from some cultural groups may expect that that AT solutions suggested by teams provide immediacy of benefit. For example, as a Chinese parent noted:

> ...when you go to the playground, you cannot always carry this with you, to mall, to shopping, right? Or when you ask for something, and she suddenly gets upset, when she was very upset, how can you take out this device and expect that kid will tell you what she wants rationally, tell you why she is mad, what she wants and why she is crying, right? This means that if the situation is very urgent, or is not under daily life circumstance, right? Even if is under the daily life circumstance, when kids are crying, in the public, how can you have time to ask her to use this device to communicate with you? (Chuang, 2002, pp. 5-6)

As noted in this example, family frustration with the AT may result if its usage does not mesh with situational needs. When AT solutions fail to meet family expectations, disillusion with the AT and abandonment may result, particularly if family members have not been given adequate information during decision-making processes (e.g., amount of time to purchase the device; time required to train the child and others to use the device properly).

Team members should focus considerable efforts on providing information to family members regarding real expectations related to acquiring, using, and maintaining devices, including training and other technical supports required (see Table 1). Use of support groups and other family-friendly training and information delivery mechanisms should also be employed when desirable (Parette, Brotherson, & Huer, 2000).

Change in level of functioning. Many families from diverse cultural backgrounds will view AT most favorably if positive changes in their children's level of functioning are anticipated following implementation of the AT. For example, a child receiving an augmentative and alternative communication (AAC) device to communicate with others might also be expected to demonstrate developmental changes in social and academic areas. Not only would the child have the ability to carry on meaningful conversations, but he or she might also develop friendships and be a more effective participant in language, spelling, and other curricular areas.

However, the expectations for changes in level of functioning are often not without some commitment of family resources. Implementation of the device might require certain changes in family routines (e.g., training of siblings and other family members), resulting in potentially stressful scenarios and forcing the family to choose between the AT and maintenance of more normalized family interactions (Brotherson, Oakland, Secrist-Mertz, Litchfield, & Larson, 1995). Team members must carefully assess the potential positive *and* negative outcomes of asking families to commit time and resources to AT implementation, and ensure that the various possibilities of impacts on the family are explored when families have expectations that changes in developmental status of the child will occur (see Table 1).

Acceptance in the community. A primary goal for many children receiving special education services is integration into community settings. AT can assist children to be more independent in such settings, though numerous operational assumptions must be met, including, but not limited to the following: (a) Have the environmental characteristics/demands of each setting in which the device will be used been identified? (b) Have the user needs/resources (and needs/resources of others) in each environmental setting in which the device will be used been identified? (c) Have the characteristics of the AT been identified? and (d) Is the device being considered congruent with both user (and others') needs, values, and environmental demands? (Institute for Matching Person and Technology, 2003).

When such questions are effectively considered, individuals within community environmental settings may be optimally supported to increase the probability that the child with a disability who uses AT will be accepted (see Table 1). When these questions are not effectively considered, problems may be anticipated including a lack of understanding on the part of the family regarding how to implement the AT in the community, how community members are to understand their roles in supporting the child's use of AT in the community, increased stress, and abandonment.

Immediate and ongoing access to AT. When some children are exposed to AT during the assessment process, families may sometimes see potential for growth and development that was previously unrecognized. For example, using a motorized wheelchair, the child might demonstrate the ability for independent mobility for the first time in his or her life. Similarly, a child who has never spoken a word might use an AAC device and by depressing a single button say, "I love you, Mommy." The powerful impact of such experiences—both for the child and family—cannot be overstated, and can raise expectations and the hopes of the family. If the family is told that they must wait until a funding stream can be accessed to secure the AT, or commit to lengthy training to learn to use a device before it can be implemented, an injustice to the child and family can result. This may culminate in frustration and anxiety on the part of the family.

Poster presentation to the Council for Exceptional Children 2003 Annual Convention and Expo
Seattle, WA, April 11, 2003

Being more like other children. Many family members, particularly mothers, are especially concerned that their children be accepted by other peers in social settings (Angelo, Jones, & Kokoska, 1995). Generally, AT can assist many children with disabilities to more effectively be included with others and perform a wide range of tasks across environmental settings. If family members, with whom the team may be working, value the importance of inclusion for their children, they may be much more inclined to expect AT that can help facilitate such a goal. As noted by a Native American mother when discussing AT goals for her child,

"...he wants his own computer that he can have at home and I mean not just the one that he borrows, but [one] of his own so that he can write to his friends" (Stuart, 1998, p. 650).

Although professionals may feel that AT can assist children with disabilities find acceptance in school and community settings (e.g., using an augmentative and/or alternative communication device to aid in communication; using a motorized wheelchair for mobility), many families will express concern that devices will draw undue attention to or stigmatize the child (Smith-Lewis, 1992). As noted by Brookes (1998): "...assistive devices become a signal because the sight of a person using AT sends a message that this is not an ordinary person and that one needs to behave differently around this person" (p. 4). When the family is already coping with the stigma of minority status, this problem may be particularly exacerbated given that the family may perceive a double stigma associated with the provision of AT (i.e., the child is now different both because of race, disability, and the use of AT that draws attention to the child). Families with cultural/linguistic backgrounds valuing *acceptance* and *blending into* a community, may reject the use of devices that draw undue attention. If team members expect use of the device in public settings, AT devices must easily accepted by others

Ability to use other devices. Interestingly, many families may assume that learning to use one type of AT device may also result in the ability to use other devices as well. For example, by learning to use a computer increased fine motor skill development might result, thus enabling the child to operate other devices requiring similar fine motor skills (e.g., keyboarding, using a trackball, switch activation). While this may be true for some children, others may simply develop splinter skills that are not generalized to other types of AT devices. This emphasizes the importance of matching the child to each AT solution and each environment in which the AT will be used.

What's Ahead?

As noted by Parette, Huer, and VanBiervliet (in press), AT assessment, prescription, and implementation processes involve a partnership between families and professionals in which considerable information is gathered and shared. During the early stages of planning, most families from any cultural background will be unfamiliar with the purpose, functioning, and pros and cons of specific assistive technologies. The AT professional's role in this process is an educational one—to learn about and respond in an informed and sensitive way to child and family needs. Most cultural groups have learning style elements that distinguish them from other groups. Dunn and Griggs (1995) noted that within cultural groups, individuals differ significantly from each other, thus emphasizing the importance of identifying and responding to learning style preferences. In doing so, three critical factors must be considered: (a) universal principles of learning do exist; (b) culture influences both the learning process and its outcomes; and (c) each individual has unique learning style preferences that affect his or her potential for achievement (Dunn & Griggs, 1995).

When working with families, AT professionals must modify their educational approaches from child learning to *adult learning strategies.* According to Knowles (1996), adults (a) have a need to know why they should learn something; (b) have a need to be self-directing; (c) bring into the learning situation a background of experience (including cultural experiences) that is a rich resource upon which to build new knowledge and skills; (d) become ready to learn when they experience a need to know in their life situations; and (e) develop a task-centered or problem-centered orientation to learning by virtue of life and work experiences (Knowles, 1996).

Consequently, family AT education activities must be designed that incorporate the following strategies and concepts: (a) AT education based on valid needs of the family; (b) training presented with as many user-controlled options for learning as possible; (c) training provided as close to the time it is needed as possible; (d) small amounts of information provided with family being told they will need to know the information for future use; and (e) activities focused on "doing" something with information rather than simply "knowing" the information.

Information and Educational Technologies

AT professionals must employ a variety of teaching strategies to accommodate family learning style preferences and needs. It is important to consider employing a variety of media, capitalizing on the unique strengths of each medium, and designing alternative activities to reach the same objective that give the participant the option of selecting those activities that best meet his or her preferred learning style.

As noted by Parette, Huer, and VanBiervliet (in press), there are a number of recent developments in communication and education technology that provide important new educational approaches for tailoring education to individual needs. Some of these approaches such as e-mails about implementation progress, a CD-ROM with interactive learning or activities, or a Web site describing an AT device and vendor options might be supplemental to face-to-face meetings. Others, such as an interactive educational program may be used to replace a meeting or for family members who could not attend a meeting. This combination of face-to-face and computer based delivery of information is called blended learning (Valdez, 2001)—a powerful, flexible strategy that can enhance the learning experience. For example, assessment information could be reviewed in a face-to-face meeting with the family and a CD-ROM or web site could be accessed for information about alternative technologies during the meeting. These digital resources could include examples of several persons using the AT in multiple settings and talking about their experiences. The family could then use the CD-ROM or access the web site from home for additional information, to refresh what they learned, or to use the information in an interactive task. The family and AT professional could communicate regularly via phone or e-mail.

Digital technologies provide a number of new opportunities for enhancing the individualization of AT processes, user control, and range of learning options then previously available. With properly designed resources, AT professionals could create an instructional program tailored to a particular family that includes imagery and video clips that are culturally appropriate. The family members could choose parts of the instructional programs they want to watch and view them from home as well.

Another strategy is to provide a variety of onscreen instructional or information guides. These onscreen characters can represent individuals from various cultural or ethnic groups and provide unique perspectives on the information. The guides can present information via digital videos, audio narration, pictures and text (cf. Paulsen & Creasey, 1999; VanBiervliet, 1999; VanBiervliet, 2002). Programs that have employed this approach can be used in many ways: as tutors, as learning games and as encyclopedias on a particular topic. Take Control (VanBiervliet & McCluer, 1996) is designed to provide both a guided path for the learner and an opportunity for the learner to explore the information in any order or at any depth. Onscreen peers serve as program guides. The peer guide periodically appears on screen to provide instructions, personal experiences and offer words of encouragement. The guides include persons from a variety of walks of life and sociocultural backgrounds. Prior to selecting a guide, the guide can be "interviewed" by the user. Each guide has an accompanying biographical sketch and a brief digital movie in which the guide introduces him/herself in their own words.

As noted by Parette, Huer, & VanBiervliet (in press),

use of vignettes, or short personal stories, is another powerful tool for individualizing digital programs. The *Families, Cultures and Augmentative and Alternative Communication* CD-ROM (VanBiervliet & Parette, 1999; VanBiervliet & Parette, 2002) contains video vignettes of family members from five different cultural groups who discuss their experiences with the AT processes. These digital movies have accompanying onscreen narration in English or Spanish, so users can read along if desired. The program features mothers, fathers, grandparents and extended family members talking about their experiences with this communication technology. For example, in the *Families, Cultures and Augmentative and Alternative Communication* CD-ROM an aunt from a Navaho village talks about her family's desires to have the images on her nephew's communication system displayed using earth tone colors that are more representative of their culture rather than less familiar primary colors. A woman of Philippine heritage talks about how the food pictures depicted are not the foods her family eats. Others talk about the difficulty of incorporating the communication technology into their family lifestyles. Interactive games are also available to provide alternative means of accessing information and to reinforce concepts and content presented.

Maximizing Access

Good instructional design is *accessible design.* No responsible educator would knowingly create an instructional program that students or family members could not use simply on the basis of their racial or cultural heritage. It is equally inappropriate, as well as perhaps a violation of federal and state laws, to create a computer-based program that cannot be used by students or family members with disabilities. Computer program accessibility does not just happen; design considerations must be factored into all stages of the development process. Retrofitting or revising a program to incorporate appropriate access after it has been released is far more expensive than planning for maximum accessibility from the initial development stages. For example, using larger text sizes (16 or 18 point) to enhance readability is easy to do at the beginning of development but may require a total redesign of the program later on (Arditi, 1999). An important point of view is that accessibility is user-centered, whether the user is a student or family member, not program or document-centered (Slatin, & Rush, 2003). It defines accessibility as an aspect or quality of the individual user's experience of the resource, not a property of the document itself. Accessibility is defined in terms of the user's ability to access and use the program and its resources as effectively as someone without a disability. Developers who incorporate access solutions may find that these modifications bring benefits to the wider populations as well. The principles of universal design or maximum accessibility, designing to meet the needs of as many users as possible, provide a new dimension for improving the usability of educational software for all persons.

In order to achieve maximum accessibility, it is important for program developers to have a better understanding of how people with disabilities will experience the program. Then they will be in a better position to think of ways to use accessibility guidelines and standards as resources for improving the learning experience. Involving persons with disabilities in *all phases of design and evaluation* also helps to avoid unnecessary program barriers and reduce costs. Incorporating a few simple features greatly increases the number of people who can use an application. For educational programs, universal design can be viewed as providing multiple representations of content, providing multiple options for expression and control, and providing multiple options for engagement and motivation (Center for Applied Special Technology, 1998). Providing multiple representations of content involves providing essential information in redundant formats such as an auditory narration accompanied by text and images. An example of providing multiple options for control is to enable keyboard options for mouse movements and selections. Options for engagement include providing content in multiple learning styles, such as guided and exploratory styles, and providing multiple levels of depth or detail on topics.

Implications

It is clear that new and emerging technologies present great potential for future interventions with families across cultures. It is suggested future applications of technology may be enhanced using *cultural reciprocity*, or having *knowledge* about the beliefs and values of all parties. Kalyanpur and Harry (1999) suggest that a four-step process for professionals to develop a "posture of cultural reciprocity" (p. 118). By combining this four-step process with knowledge of emerging technologies and a family-centered approach, cultural reciprocity may be achieved. These steps include the following.

Step 1. Identification of the cultural values embedded in the professional's interpretation of the family and/or student's AT needs or in the recommendation for service. This step essentially requires the professional to ask "Why" a specific perception is held. For example, an Asian student with a physical disability is reticent to make eye contact with and respond verbally when addressed by adults. Even when efforts are made by adults to "build rapport" the student still displays a perceived inability, or unwillingness to demonstrate these important developmental skills. At this point, the professional should ask him/herself why these skills are deemed to be important. If the professional is from a Euro American cultural background, the perception may simply be that eye contact and verbally responding to adult communication initiations are important in both the classroom and daily interactions with others.

Step 2. Determining whether the family recognizes and values these assumptions, and if not, how their perception differs from that of the professional. In this second step, the family is approached and the professional presents his or her perception of the "issue" to the family. This becomes problematic in working with families across cultures, as some families may require an interpreter for interactions with school personnel to occur. When interpreters are used, some families may be uncomfortable discussing family matters in the presence of others. They may also feel that probing questions from professionals are intrusive. Once appropriate contact is made with the family, the professionally held perception should be presented in a culturally sensitive way to the family for their consideration and response. In this example, the family may reveal that they see nothing wrong with the child's behaviors and that such behavior is typical of children in Asian family settings.

Step 3. Acknowledging and giving specific respect to any cultural differences identified, and fully explaining the cultural basis of the professional assumptions. In this phase, the professionals should explain their assumptions and beliefs and how they are different to the family (Kalyanpur & Harry, 1999). In this example, the professional would clarify that eye contact is important during communication interactions, and that verbal responses to adult communicative initiations are important. Further, the professional would note that failure to demonstrate these behaviors leads you to believe that she has not heard what has been said to her, and that disrespect is communicated by not making eye contact. The professional must also acknowledge that the family feels that (a) lack of eye contact communicates deference to and respect for authority figures, and (b) children are taught to listen and not draw attention to themselves by responding to adults.

Step 4. Determining the most effective way to adapt professional interpretations or recommendations to the value system of the family. For example, through discussion and collaboration, all parties work out an alternative solution that is acceptable to professionals *and* the family. In this student's case, both professionals and family members agree that acceptable outcomes are for the teacher to be certain that the child has "heard" the teacher when addressed and that the information has been "processed", i.e., the child understand the communication initiation and provides a response that assures the professional that communication has taken place.

This process acknowledges that all cultures possess

diverse cultural sets, often conflicting symbols, rituals, stories, and guides to action. This is also true of all institutions in the U.S., such as special education, i.e., there is a subsystem of culture in special education within the larger education system (Kalyanpur & Harry, 1999). Special education as a system reflects a culture of sets of behavior that have become ingrained in the behavior of professionals who work with families. When conflicts with existing cultural sets occur in the school setting, students with disabilities and their families must employ a cultural *tool-kit* (Swidler, 1998) to mediate the conflicts encountered. The cultural tool-kit provides individuals with the tools for constructing different strategies of action in response to conflicts, or environmental demands. Both individuals and groups actively use different tools from this kit to do different things in different situations.

References

Arditi,A. (1999). *Making text legible: Designing for people with partial sight*. Retrieved December 12, 2002 from http://www.lighthouse.org/print_leg.htm

Brooks, N. A. (1998). Models for understanding rehabilitation and assistive technology. In D. B. Gray, I. A. Quatrano, & M. L. Lieberman (Eds.), *Designing and using assistive technology. The human perspective* (pp. 3-11). Baltimore: Brookes.

Brotherson, M. J., Oakland, M. J., Secrist-Mertz, C., Litchfield, R., & Larson, K. (1995). Quality of life issues for families who make the decision to use a feeding tube for their child. *Journal of the Association for Persons with Severe Handicaps, 20*, 202-212.

Center for Applied Special Technology. (2002). *CAST's three principles of Universal Design for learning*. 1998. Retrieved December 12, 2002, from http://www.cast.org/udl/UniversalDesignforLearning361.cfm.

Huer, M. B., Parette, P., & Saenz, T. (2001). Conversations with Mexican-Americans regarding children with disabilities and augmentative and alternative communication. *Communication Disorders Quarterly, 22*(4), 197-206.

Chuang, S. J. L. (2002). *Case 2 English transcription*. Cape Girardeau, MO: Southeast Missouri State University. Retrieved March 28, 2003, at http://cstl.semo.edu/parette/homepage/research.htm

Huer, M. B., Parette, P., & Saenz, T. (2001). Conversations with Mexican-Americans regarding children with disabilities and augmentative and alternative communication. *Communication Disorders Quarterly, 22*(4), 197-206.

Institute for Matching Person and Technology. (2003). Matching person and technology. Retrieved April 1, 2003, from http://members.aol.com/impt97/mpt.html

Kalyanpur, M., & Harry, B. (1999). *Culture in special education. Building reciprocal family-professional relationships*. Baltimore: Brookes.

Knowles, M. (1996). Adult learning. In R. Craig (Ed.), *The ASTD training and development handbook* (4th ed., pp. 253-264). New York: McGraw-Hill.

National Telecommunications and Information Administration. (2002). *A nation online: How Americans are expanding their use of the Internet*. U.S. Department of Commerce. Retrieved September 15, 2002 from http://www.ntia.doc.gov/ntiahome/dn/index.html

Parette, H. P., Brotherson, M. J., & Huer, M. B. (2000). Giving families a voice in augmentative and alternative communication decision-making. *Education and Training in Mental Retardation and Developmental Disabilities, 35*(2), 177-190.

Parette, H. P., Huer, M. B., & VanBiervliet, A. (in press). Cultural issues and assistive technology. In D. L. Edyburn, K. Higgins, & R. Boone (Eds.), *The handbook of special education technology research and practice*. Whitefish Bay, WI: Knowledge by Design, Inc.

Parette, H. P., Stuart, S., Huer, M. B., Hoge, D. R., Hostetler, S., Dunn, N., Brotherson, M. J., VanBiervliet, A., & Wommack, J. (1996, November). *Qualitative methodology and AAC decision-making with families across cultures*. Paper presented to the American Speech-Language-Hearing Association Annual Convention, Seattle, WA.

Parette, P., & Huer, M. B. (2002). Working with Asian American families whose children have augmentative and alternative communication (AAC) needs. *Journal of Special Education Technology, 17*(4), 5-13.

Parette, P., & McMahan, G. A. (2002). Team sensitivity to family goals for and expectations of assistive technology. *Teaching Exceptional Children, 35*(1), 56-61.

Parette, P., VanBiervliet, A., & Hourcade, J. J. (2000). Family-centered decision-making in assistive technology. *Journal of Special Education Technology, 15*(1), 45-55.

Paulsen D. F., & Creasey, G. H. (1999, September). *Check, Rock & Roll: Pressure ulcer prevention using interactive multimedia*. Paper presented at: 16th Annual Conference of the American Association of Spinal Cord Injury Nurses, Las Vegas, NV.

Slatin, J. M., & Rush, S. (2003). *Maximum accessibility*. Boston: Addison-Wesley.

Stuart, S. S. (1998a). Structured interview with Navaho family. In P. Parette, A. VanBiervliet, J. W. Reyna, & D. Heisserer (Eds.), *Culture, families, and augmentative and alternative communication impacy. A multimedia instructional program for related service personnel and family members* (pp. 636-646). Retrieved April 1, 2003, from http://cstl.semo.edu/parette/homepage/database.pdf

Stuart, S. S. (1998b). Structured interview with Navaho family. In P. Parette, A. VanBiervliet, J. W. Reyna, & D. Heisserer (Eds.), *Culture, families, and augmentative and alternative communication impacy. A multimedia instructional program for related service personnel and family members* (pp. 647-653). Retrieved April 1, 2003, from http://cstl.semo.edu/parette/homepage/database.pdf

Swidler, A. (1998). Culture and social action. In P. Smith (Ed.), *The new American cultural sociology* (pp. 171-187). Cambridge: Cambridge University Press.

VanBiervliet, A, & Parette, H. P. (2002) Development and evaluation of the *Families, Cultures and Augmentative and Alternative Communication* (AAC) Multimedia Program. *Disability and Rehabilitation, 24*(1-3), 131-143.

VanBiervliet, A. (1999). Multimedia and SCI: Educational strategies for the 21st century. *Topics in Spinal Cord Injury Rehabilitation, 5*(3), 33-49.

VanBiervliet, A., & McCluer, S. (1996) *Take control: Multimedia guide for spinal cord injury Volume I*. (CD-ROM). Little Rock, AR: Arkansas Spinal Cord Commission and Program Development Associates, Inc.

VanBiervliet, A., & Parette, H. P. (1999). *Families, cultures, and AAC* (CD-ROM). Little Rock, AR: Southeast Missouri State University and University of Arkansas for Medical Sciences.

Veldez, R. J. (2001) *Blended learning: Maximizing the impact of an integrated solution*. Retrieved December 12, 2002 from http://www.nedc.nrcs.usda.gov/pdf%20files/blended_learning.pdf

BEST COPY AVAILABLE

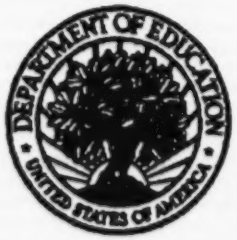
Table 1. Family Goals or Expectations for AT, Potential Outcomes, & Team Responses

Goal or Expectation	Positive Outcomes	Negative Outcomes	Team Responses
Child will immediately use AT	• Rapid adaptation to AT • Enhanced family self-esteem • Increased caregiver time to pursue other activities • Increased family involvement • Intense involvement of professionals in training • Development of user-friendly training & support materials	• Failure to use AT due to initial & ongoing training needs • Intensive training required • Professionals may have little or no interest in AT • Increased commitments of time to use AT in natural settings • Changes in family routines to accommodate AT usage • Increased transportation demands • Ongoing availability to ensure AT usage • Increased levels of stress • Abandonment	• Provide required information regarding training, maintenance, & transportation • Share information re: device & service demands • Determine willingness of families to use AT across settings • Identify training needs of all family members • Provide direct training w/ user-friendly materials • Use support groups to provide training & information
Change in level of functioning	• Rapid improvement of child functioning • Increase in other skills • Family satisfaction w/ AT	• Choosing between quality of life & AT implementation • Slow progress • Increased progress followed by plateau • Frustration • Illness episodes resulting in decreased AT proficiency • Increased stress • Abandonment	• Help family to celebrate small changes in behavior related to AT usage • Provide information re: anticipated family time commitment of to use AT • Assist families in problem-solving re: organization of time for AT implementation • Provide direct training to family • Use support groups to help families deal w/ device/service-related stressors
Acceptance in community	• Greater access to services & activities • Heightened independence • Less dependence of child on family for successful interactions in community • Heightened child & family self-esteem • Willingness of community members to learn to use AT	• Inability of family to predict ways AT will be used in community • Community members may not understand how to interact w/ child • Undue attention drawn to child & family • Family may refuse to use AT in social settings • Family must transport device across settings • Financial responsibility may discourage AT usage in community • Increased stress levels • Abandonment	• Identify contexts for AT usage & demands on effective usage • Clarify family responses to social usage of AT in community settings • Provide training to child, family, & others in natural settings • Anticipating how AT may be potentially used in community • Identify easily transportable devices • Clarify financial responsibilities for AT & develop solutions to optimize use in community

BEST COPY AVAILABLE

Immediate and ongoing access to AT	• Funding source may secure device or service promptly once decision is made • Loaner device may be available to child & family during funding & repair intervals	• Funding source may require inordinate period of time, resulting in frustration & anxiety for family • Loaner devices may not be available for child & family use during repair & funding intervals	• Ensure availability of loaner devices or other alternatives • Clearly communicate timelines required for funding & repair intervals
Child will be more like other children	• Child may interact more effectively w/ others in natural settings • Child will demonstrate skills & abilities previously not possible without the use of AT	• Child may be perceived to be different • Reduced child interactions w/ others • Family & others must assume responsibility for availability of AT for child's participation in activities • Increased levels of stress • Abandonment	• Provide information & training to children w/ whom child will interact regarding nature of device or service & how to use appropriately • Determine responsibility for transportation of devices across settings
Device or service usage will lead to ability to use other devices (e.g., computers)	• Use of devices or services may develop prerequisite skills important for use of other devices (e.g., fine motor control, tracking skills, keyboarding)	• AT may require use of splinter skills unrelated to use of a computer or other devices deemed important to families	• Identify & communicate features of devices & services & the relationship of skills developed to family preferences, priorities, & needs

Source: Adapted from Parette, H. P., & Angelo, D. H. (1998). The impact of assistive technology devices on children and families. In S. L. Judge, & H. P. Parette (Eds.), *Assistive technology for young children with disabilities: A guide to providing family-centered services* (pp. 148-183). Cambridge, MA: Brookline. (adapted with permission.)



U.S. Department of Education
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

ERIC

REPRODUCTION RELEASE

(Specific Document)

I. DOCUMENT IDENTIFICATION:

Title: Cultural Dimensions of Assistive Technology: What We Know and What's Ahead	
Author(s): Phil Parette, Jack Hourcade	
Corporate Source:	Publication Date: 4/11/03

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1

☒

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) *and* paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A

☐

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only.

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B

☐

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only.

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but neither box is

checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here please

Signature: Phil Parette	Printed Name/Position/Title: Phil Parette Professor	
Organization/Address: Elementary, Early, & Special Education Southeast Missouri State University One University Plaza Cape Girardeau, MO	Telephone: 573-651-2420	FAX: 573-651-2420
	E-Mail Address: PParette@semo.edu	Date: 4/16/03

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS).

63701

Publisher/Distributor:
Address:
Price Per Copy:
Quantity Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant a reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V.WHERE TO SEND THIS FORM:

You can send this form and your document to the ERIC Clearinghouse on Languages and Linguistics, which will forward your materials to the appropriate ERIC Clearinghouse.

Acquisitions Coordinator
ERIC Clearinghouse on Languages and Linguisitics
4646 40th Street NW
Washington, DC 20016-1859